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Department of Patents.
Patents Act 1903-1909.
Commonwealth of Australia.

No. 19,182/20.

APPLICATION DATED

16th December, 1920.

Applicant (Actual Inventor) ... ... BERTRAM ROBERT HESTER.
Application and Complete Specification ... Lodged 16th December, 1920.
Application and Complete Specification Accepted 29th *Aug.*, 1921 Acceptance Advertised (Sec. 50) 13 Sept., 1921.

Classes 81.1; 81.2; 81.4; 81.9; 81.7.

Drawing attached.

COMPLETE SPECIFICATION.

"Improvements in bricks, blocks, slabs, tiles and the like for building, flooring, paving and other structural purposes."

I, BERTRAM ROBERT HESTER, a British subject, of 38 Carnarvon Road, Bertrams, Johannesburg, Transvaal Province, Union of South Africa, a Builder, hereby declare this invention and the manner in which it is to be performed, to be fully described and ascertained in and by the following statement:—

This invention relates to bricks, blocks, slabs, tiles, etcetera, applicable for building, flooring, paving and other structural purposes.

The invention consists of a composite brick, etcetera, made of a top or upper portion or facing of wood or similar material and a bottom or lower portion or base of concrete. The upper portion of wood is fixed upon the concrete base portion by suitable means and the bricks, etcetera, are preferably constructed at one end and at one side (or two adjacent sides) with a tongue of any suitable shape, and at the other end and the other side (or the other two adjacent sides) with correspondingly shaped grooves, so that when the bricks, etcetera, are placed in position a tongue and groove joint is formed between them.

In manufacturing the improved composite brick, etcetera, the base portion is preferably made of cement concrete, i.e., a mixture of small stone (or stone chippings) or gravel and cement with or without sand. If preferred, the concrete may be made with lime or magnesite instead of cement and the sand be used without the small stone; or any other suitable adhesive material may be employed which would serve to bind together the ingredients employed to form the concrete base. The concrete is moulded or otherwise suitably shaped into bricks, etcetera, of the desired dimensions and allowed to set. The top of the concrete base, upon which the facing of wood is to be placed, may be coated with tar or other suitable material to render the same damp or moisture proof. The mould in which the concrete base portion is made is preferably shaped so as to form upon one end and side (or two adjacent sides) of said base portion a triangular or other suitably shaped tongue or projection and also to form in the other end and side (or two other adjacent sides) a correspondingly shaped groove. Such tongues and grooves may be formed about the centre of the depth of the base portion or in any other position.

The upper portion or facing of wood may be of any desired thickness. It is fixed to the top of the concrete base portion by means of one or more metal or other suitable ties, bonds or connecting members,

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19-23, 27-32.

or by means of any suitable adhesive material.

In the making of slabs or the like it will probably be found the most convenient to put the wood on the concrete base portion in pieces or sections.

The wood may be treated with any desired preservative, if preferred.

The bricks, etcetera, constructed as above described can be used for flooring and pavements as well as walls and other, either outside or inside, work. They lend themselves for use in parquetry or the construction of inlaid floors, etcetera, or as tiling for walls, etcetera. By the use of such bricks, etcetera, a very considerable saving in the quantity of timber used is effected, as it admits of the use of relatively very thin timber for the purpose specified. It also allows of floors, etcetera, being laid in comparatively expensive timbers owing to the fact that but little is required compared with the solid blocks or bricks of timber such as are commonly used for the laying of floors of the kind hereinbefore referred to. A further advantage of the use of the bricks, etcetera, is that the depth of the flooring will be considerably less than at present.

The invention will be more fully described with the aid of the accompanying drawings, wherein

Figs. 1—2, 3—4, 5—6, and 7—8 show in plan and side elevation, four different blocks or slabs in each of which the pieces of the wood facing are differently arranged, or disposed to form different patterns; Fig. 1 also showing one mode of securing the wood facing pieces on the concrete base.

Figs. 9 and 10 represent plan and end elevation, respectively, of three bricks assembled.

Fig. 11 is a plan view of one brick, illustrating one method of securing the wood facing piece on the concrete base portion.

Fig. 12 is a section of Fig. 11 on line x—x.

Figs. 13 and 14 are side and end elevations, respectively, drawn to an enlarged scale, of one of the ties or connecting members shown in Figs. 11 and 12.

Figs. 15 and 16 are plan and side elevation, respectively, of a single brick, illustrating a modified form of the ties for securing the facing to the base, and

Figs. 17 and 18 are plan and side elevation, respectively, illustrating another mode of securing the facing on the base.

In the design or pattern depicted in Figs. 1 and 2, all the wood facing pieces or strips 1 are of uniform dimensions, and they are arranged in groups or sets of three parallel strips to form the pattern or design shown.

In Figs. 3 and 4, the wood facing pieces or strips 1 are made of two different sizes, one size being half the length of the other. The pieces are arranged, as shown, to form the pattern.

In Figs. 5 and 6, the pieces are of triangular shape and uniform dimensions and are arranged in the manner shown to produce the pattern illustrated.

In Figs. 7 and 8, the pieces are of three different sizes and are arranged as shown to produce the pattern represented.

2 in the several Figs. represents the concrete base portion upon two adjacent sides of which the tongues 3, 4, are formed; the grooves 5, 6, being formed in the other two adjacent sides. The tongues and grooves are shown of substantially triangular cross-section but they may be of any other suitable and preferred shape. As shown in connection with Figs. 9 and 10, when the bricks or blocks are assembled, the tongues engage in the grooves of adjacent blocks and serve to retain the blocks in correct relative position. The tongues and grooves are shown formed centrally of the thickness of the base portion, but, if found more convenient, they may be placed either nearer the bottom or top, as preferred.

In connection with Figs. 11 to 14 of the drawings, I illustrate one means for connecting together the wood and concrete portions of the brick, block, etcetera, by means of metal ties or bonds. Two of the metal ties 7, shown in Figs. 13 and 14, are used in the block shown in Figs. 11 and 12. In the underside of the wood piece or strip 1, two open-ended undercut grooves 8 are formed, near the ends thereof, to receive the upper inwardly bent portions 9 of the ties 7. The remainder of the tie 7 is embedded in the concrete base portion 2. It is preferably cut away or shaped as indicated at 10 to allow the concrete to pass between the two projecting parts 11, 12. The latter, in their lower portions, are shown bent in opposite directions to form lateral projections or keys which retain the ties in position in the block. The ties 7 are made of such dimensioins that they terminate at a suitable short distance from two opposite sides of the base part, as indicated at 13 in Fig. 11, and at a suitable

short distance above the bottom, as indicated at 14 in Fig. 12. Those portions of the ties 7 which engage with the underside of the wood portion 1 may, if preferred, be of dovetail cross-section or of any other suitable and desired shape. In placing the wood portion 1 in position on the base portion 2, it will be slid transversely across the top of the concrete base portion 2 to cause the upper inwardly bent portions 9 of the ties 7 to bear with some pressure, due to spring effect, on the undercut sides of the open-ended grooves 8.

In the modified method of connecting the wood portion 1 to the concrete base portion 2, illustrated in Figs. 17 and 18, the wood portion 1 is fashioned with two transverse open-ended dovetail grooves 15 in which engage correspondingly shaped projections 16 formed transversely on the top of the concrete base portion 2.

In the further modification shown in connection with Figs. 15 and 16, the wood portion 1 is fashioned on the underside, near each end, with an open-ended dovetail groove 17 and the ties are in the form of conical-headed pieces 18 which engage in said dovetail grooves 17 and are secured in the concrete base portion by the lateral projections 19 provided at their lower ends.

In connection with Fig. 1, I show three of the groups or sets of the wood pieces 1 fixed on the common concrete base portion by the means shown and described in connection with Figs. 15 and 16.

Although I illustrate several forms of the tie for securing the wood portion of the brick or block on the base portion thereof, it is to be understood that, if made of metal or other rigid material they may be made of any other suitable shape and that I do not limit myself to the forms shown and described. Alternatively, the wood may be fixed on the top of the concrete base by any suitable agglutinant or adhesive material.

Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is:—

1. A composite brick, block, slab, tile or the like, comprising a top or facing of wood or similar material and a bottom or base of concrete, attached to said top or facing to form a single portable unit, substantially as described.

2. A composite brick, block, slab, tile or the like, according to the preceding claim, in which the brick, block, slab, tile or the like is constructed on one or more sides or edges with a tongue or tongues and on one or more opposing sides or edges with a groove or grooves, substantially as and for the purpose described.

3. A composite brick, block, slab, tile or the like, according to either of the preceding claims, in combination with means for securing the wood portion on the concrete base portion, substantially as described.

4. A composite brick, block, slab, tile or the like comprising a facing of wood or like material, and a base of concrete, and means for securing said facing on said base, substantially as described in connection with Figs. 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10, 11 to 14, 15 and 16, or 17 and 18 of the accompanying drawings.

Dated this 16th day of December, 1920.

EDWIN PHILLIPS,
Phillips, Ormonde, Le Plastrier & Kelson,
Agents for Applicant.

Witness—Jack Nance.

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Bertram Robert Hester.

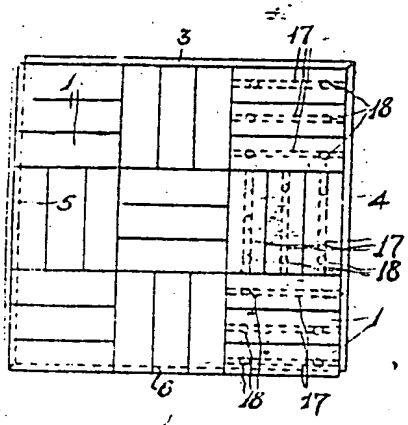

Fig. 1.

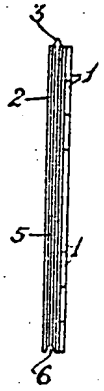

Fig. 2.

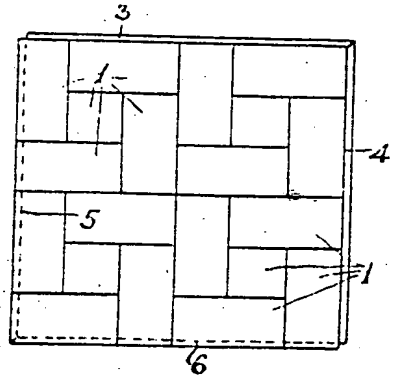

Fig. 3.

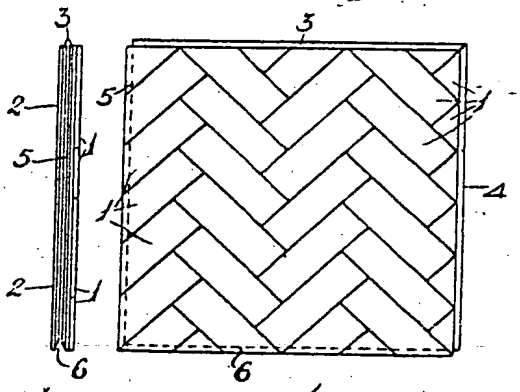

Fig. 4.

Fig. 7.

Fig. 8.

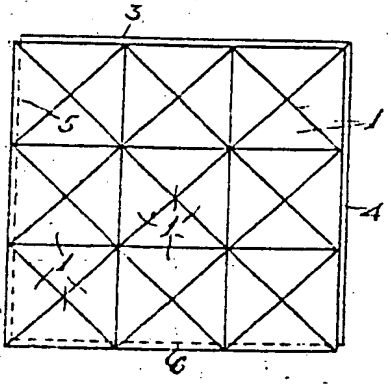

Fig. 5.

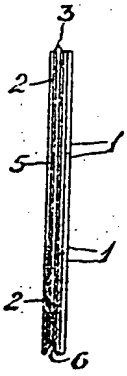

Fig. 6.

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Building Blocks.

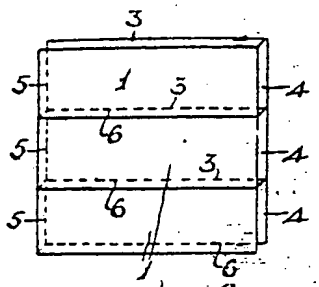

Fig. 9.

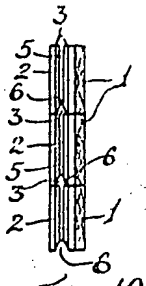

Fig. 10.

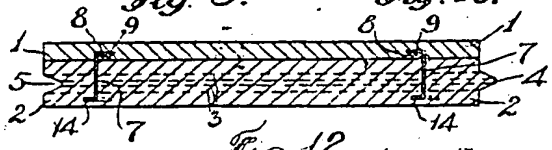

Fig. 12.

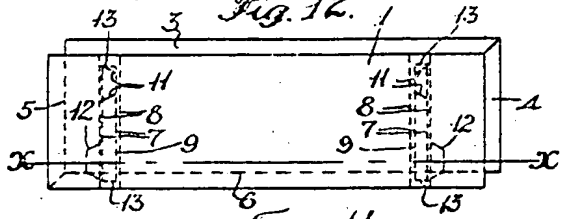

Fig. 11.

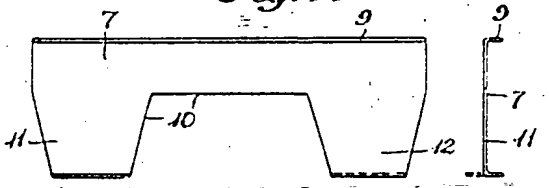

Fig. 13.

Fig. 14.

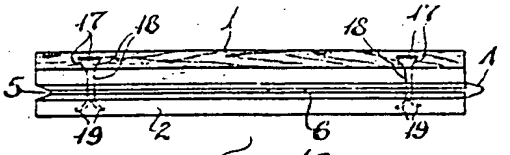

Fig. 16.

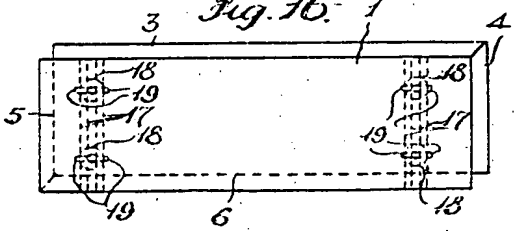

Fig. 15.

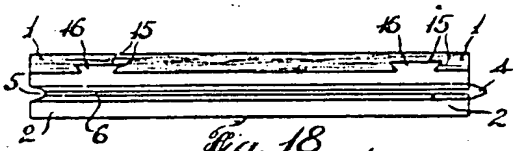

Fig. 18.

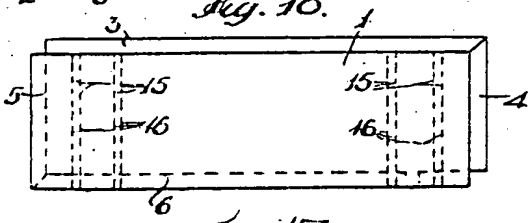

Fig. 17.